

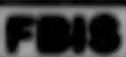
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17 July 1981

Worldwide Report

TELECOMMUNICATIONS POLICY,
RESEARCH AND DEVELOPMENT

No. 172



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BRIEFS

TUNISIA, DPRK AGREEMENT--Tunis, 8 Jul (TAP)--Two cooperation agreements have been signed this morning in Tunis between Tunisia and People's Democratic Republic of Korea. These agreements which include exchanges of news, programmes and journalists between the two countries are part of the strengthening of cooperation relations between Tunisia and the People's Democratic Republic of Korea. The first agreement was concluded between Tunisia's and Korea's radio and TV departments and the second between the Tunis AFRIQUE PRESSE News Agency (TAP) and the Korea News Agency. [Text] (LD090552 Tunis TAP in English 1400 GMT 8 Jul 81 LD)

CSO: 5500/2248

BRIEFS

JAPANESE AID TO NEPAL--Tokyo, 6 Jul (KYODO)--The government has offered the Nepalese Government a yen 1.95 billion grant aid to set up a medium-wave radio broadcasting network in Nepal, the Foreign Ministry said Monday. Notes on the aid were exchanged Sunday in Katmandu between Japanese ambassador to Nepal Minao Tsuchiya and Jitendra Lal Naskey, acting secretary, Ministry of Finance of Nepal, the ministry said. The Japanese aid, extended in response to the Nepalese Government's request, will be used for the establishment of a broadcasting station and a studio center in the capital city of Katmandu, and a broadcasting station in Pokhara in western Nepal, the ministry said. Upon the completion of the plan, the central and western parts of Nepal will be covered by the radio network and about 55 percent of the Nepalese population will benefit, the ministry said. (Text) (OM071051 Tokyo KYODO in English 0702 GMT 6 Jul 81 GW)

CB01 5500/2248

SATELLITE CONTROL CENTER UNDER CONSTRUCTION

Madras THE HINDU in English 15 Jun 81 p 7

[Text] Amidst serene surroundings on the outskirts of Hassan in Karnataka, the Master Control Facility for the multi-purpose Indian National Satellite popularly known as INSAT, is fast coming up.

Stated to be the only one of its kind in the whole of southeast Asia, this important facility is in an advanced stage of completion both in terms of construction and installation of equipment.

The satellite which is scheduled to be launched on February 18, 1982, has to be put into the geo-synchronous elliptical orbit which is 36,000 km above the earth. It will be the function of the Master Control Facility (MCF) to ensure that the satellite is properly controlled at this height in the correct orbit and also at the correct speed for satisfactory performance.

Only One MCF

There may be many control stations but there will be only one MCF. All over India there are nearly 35 control stations. A control station receives signals sent by a satellite, whereas a master control facility not only receives the signals but also commands and gives instructions to the satellite.

Situated on a 32-acre plot, eight kilometres from Hassan, the headquarters town, the MCF consists essentially of a Satellite Control Centre, two satellite earth stations, two antennae and a power complex. It has been designed and fabricated by the Ford Aerospace Communication Corporation of the U.S.

Biggest Complex

The Satellite Control Centre is the biggest complex in MCF which has a floor area of nearly 5,000 sq. m. Out of this the basement floor is 1,000 sq. m. the ground floor 2,500 sq. m. and the first floor 1,500 sq. m.

The basement floor is essentially a service facility. The ground floor has all the essentials--satellite control centre main hall, telex room, computer storage room, maintenance and calibration room, instrumentation laboratory, engineers' room, electronic sub-store, battery room and static inverter room.

Besides, there is an attractive observation gallery where visitors can watch the computer functioning and displays. Almost all the rooms on the ground floor—the nerve centre of the station—are fully air conditioned with the total load being about 200 tonnes.

The first floor consists of accommodation, among others, for spacecraft engineers and supporting staff to man the station, analyse computer data and programme commands to the satellite.

Each earth station has a floor area of about 600 sq. m. The earth station is hexagonal in shape. In the earth stations, HPA units as well as relay units will be located and they transmit the command from JSC to the antenna.

Smooth Power Supply

Uninterrupted power supply is absolutely essential for smooth functioning of the MCF. With this in view an express feeder, which is a special electrical overhead line has been laid from Hassan sub-station to the project site.

Inside this area all the lines are underground cables. In case of power failure there is a standby line which comes into automatic operation. If the standby also fails there are diesel generators which begin to function automatically.

If all these fail, the battery units located in each complex will keep up power supply for an hour.

At the MCF, there are a number of features which are important functionally and aesthetically. Among them are the four spray ponds lined with China mosaic. The jets in these ponds create an artistic spray which in turn is used as a coolant for the air-conditioning system.

The shape of the ponds has been so designed as to be in conformity with the shape of the structures nearby.

Why Hassan Was Chosen

It is not without significance that Hassan has been chosen for locating the MCF. The U.S. Outer Space Agency has earmarked parking places for satellites of various countries to avoid congestion in outer space. A "satellite jam" will mean ground stations unnecessarily tracking irrelevant satellites.

In terms of longitude, four degrees have been given as parking place for each country and the longitude of Hassan is suitably and technically excellent with reference to the allotted parking place.

Further, Hassan is near the space headquarters in Bangalore. The land availability and the absence of high obstacles towards the South also favoured the choice of this place.

Though it is a joint venture Indian materials and products have been used in most of the areas in the MCF.

Bangalore Staff Reporter

INDIGENOUS ELECTRONIC TELEPHONE EXCHANGE TESTED

Madras THE HINDU in English 15 Jun 81 p 6

(Text) New Delhi, June 14--The electronic exchange at Rajouri Gardens, which has been undergoing extensive commercial trials between January 1 and April 5 this year is reported to have given a very good performance.

The stored programme control--(SPC)--exchange has been indigenously developed by the Telecommunications Research Centre (TRC). The commercial trials of SPC--were carried out with 302 subscribers who had been earlier served by the Rajouri Garden cross-bar exchange. Of the 302 subscribers 228 were members of the public while 72 were departmental subscribers.

The question is whether in view of the successful performance of the Rajouri Garden electronic exchange, the TRC can claim to have developed a technology for the building of large-sized electronic exchange equipment, for which the Communications Ministry has sought and is evaluating offers from abroad. The SPC was initially designed by the TRC but the Bharat Electronics, Bangalore was asked to develop the units. Though the Rajouri Garden electronic exchange system has worked well, it belongs to the analogue type which has been outdated by the digital type.

A major problem faced by the Rajouri Garden exchange was the one known as "debugging." The software put into an electronic exchange has to function in a manner which has to be "understood" by the computer network, linking it to the trunk exchanges.

As a series of independently functioning systems are involved in the process of rigging up a link to the trunk exchanges, "debugging" essentially consisted in successive and successful adjustments of the functioning of the software so that there is no disruption or breakdown in the transmission of the coded impulses of the diverse electronic software. The Rajouri Garden exchange threw up a number of problems in respect of these matters before "debugging" could be successfully achieved.

The exchange has three new facilities (i) Detailed billing STD calls indicating the calling and the called numbers, time and duration of the call along with the particulars of the charge, (ii) abbreviated dialing enabling the subscriber

to contact any specified number in Delhi or any number available on STD by dialing a two-digit code like 12 and 13, (iii) Hot line: a direct connection to a pre-specified number is established if after getting the dial tone the subscriber does not dial for a short period of eight seconds.

Out of the total 302 subscribers, 139 were provided with abbreviated dialing facility for local and STD numbers and 37 were provided with hot line facility for local numbers. About 20 abbreviated codes worked for STD calls. Detailed STD bills were recorded for all the subscribers--Our Special Correspondent.

C601 3500/7133

PAPER REPORTS PROBLEMS WITH 'APPLE' STABILIZATION

New Delhi PATRIOT in English 24 Jun 81 pp 1, 7

(Text) Sriharikota, June 23 (PTI)--India's APPLE was a wounded bird today--its wings clipped--as it continued to skirt the globe in a near-geosynchronous orbit twice a day and hopes built on its prestige hitting a low.

One of the two solar panels, which would have powered the experimental communications satellite to its assigned geostationary orbit over three weeks for beaming towards Nagpur for two years, defied 32 hours of "continuous telecommand operations."

APPLE mission control centre (AMCC) here said after a series of crisis meetings this evening that the stuck solar panel had 'complicated operation procedures.'

'Our further efforts to get the second solar panel deployed did not meet with success' mission control at Shar near Madras said in a terse statement.

However, it said operations have begun for achieving three-axis body stabilization a prelude to the 'drift phase operation.'

Mission control would go on to the drift phase operation after making sure that 'the power available from the already deployed solar panel is adequate to carry out the mission.'

The APPLE mission stumbled but recovered at the launching stage from the Kourou base in French Guiana on Friday. But after the firing of its apogee boost motor (ABM) early yesterday injected APPLE from an elliptical earth orbit to a near-geosynchronous orbit it ran into major trouble from the jammed solar panel.

The ultimate aim for APPLE was to function with its four-beam antenna in geostationary orbit from its allotted parking lot in Space 36,000 km over Sumatra, Indonesia.

Mission control has however begun operations for achieving three-axis body stabilization of the spacecraft.

This is being done as a prelude to the "drift phase operation" after satisfying itself that "the power available from the already deployed solar panel is adequate to carry out the mission."

As a first step to achieve three-axis stabilization, the deployed solar panel would be locked to "enable it [to] track the sun continuously to achieve the maximum power to keep the satellite going," Mission control said.

Half Power

Top scientists of Mission control were called to emergency meeting, the third in the day, chaired by ISRO chairman Prof Satish Dhawan to take critical decisions to begin the body stabilization operations using the limited available power.

Both panels when fully deployed deliver about 200 watts of power. ISRO has taken a calculated risk in beginning the stabilization operations with only half the power available.

Mission control said the full sequence of planned earth acquisition operation could not be completed today.

However, the mission team was able to validate the detailed procedures for achieving body stabilization by maneuvering tactfully the only deployed solar panel.

Three axis stabilization is needed to keep APPL's antenna steadily looking toward the beam centre at Dopper.

Mission control said it would resume the operations early tomorrow morning and complete body stabilization "after effecting sun acquisition, earth acquisition and maneuvering the momentum wheel."

This will be followed by further orbit ranging maneuvers to achieve the final geostationary orbit using the onboard hydrazine thrusters.

If due to the constraints the full sequence of operations cannot be completed tomorrow, "operations would be suspended for one week as the spacecraft would have moved beyond (its assigned position at) 102 degrees east longitude," Mission control said.

Mission control said that in such an eventuality the body stabilization operation would be resumed after APPL reached around 10 degrees east longitude in about eight days after going round the earth.

One of the two solar panels, which supply power to the spacecraft, obeyed radio commands from Mission control and opened. The other did not.

Mission control did not say where APPL would be at that time or the equivalent Indian standard time for the scheduled maneuver.

The undeployed solar panel will not continuously face the Mission, but is likely to lead to severe board-shedding and power rationing aboard APPL and cut short its useful work.

Indian Space Research Organisation (ISRO) sources said that some power is generated by the solar panel even in stored condition before deployment.

But it would be hardly enough to meet the demands by APPLE's 11 major systems once the satellite enters the operational phase.

During the present 'drift orbit phase' the total power requirement is only about 21 watts mostly used by the very high frequency (VHF) and thermal systems on board.

One of the solar panels already deployed is capable of generating 140 watts. The nickel-cadmium batteries can supply 10 watts for 30 hours.

However, once APPLE begins operation, the power demand will be too much for a single solar panel to handle, sources said.

An ISRO manual on APPLE said that during its operational phase the spacecraft would require a maximum of 175 watts during day and about 135 watts during night.

This would be somewhat more than what the deployed and the stored solar panel could generate together.

Most of the power during APPLE's operation would be needed by the attitude control (65 watts maximum) used to stabilise APPLE, the satellite's thermal system (53 watts maximum) and the telecommunication payload (78 watts maximum).

Sizeable power (14 watts) would also be needed by the reaction control thrusters.

CSO: 9500/71/26

PAPER DESCRIBED EXPERIMENTS PLANNED FOR 'APPLE'

New Delhi PATRIOT in English 20 Jun 81 pp 1, 7

(Text) Ahmedabad, June 19 (IWN)---Of the many experiments APPLE will try is one on digital communication system.

If the experiment proves a success it may revolutionise the conventional communications network in the country, according to experts from APPLE utilisation project coordinating unit here.

The numerous advantages of this system include a greater immunity from noise disturbances, and flexibility and versatility in handling different types of video audio and data signals.

Another experiment to be made is called the time division multiple access (TDMA). It will decide the future of satellite linked telephone system in this country.

The spread spectrum multiple access experiment will enable the country to evolve a communication technique which cannot be jammed or interfered with by 'outsiders.'

The Random Access Packet (RAP) switching experiment is concerned with transmission of data for computers.

These technical experiments, sponsored by the Indian Space Research Organisation and the Post and Telegraph Department will be conducted a month or two after APPLE attains a geostationary orbit.

The Space Application Centre here is planning to make a small and easily transportable communications terminal (SMT) which can provide two-way voice communication between any remote centre in the country with earth stations like those at Delhi, Ahmedabad and Madras.

A wide range of space based industries in the country helped in the development of the sophisticated electronic, power engineering and communication component for APPLE--the Ariane Passenger Payload Experiment.

A majority of the spacecraft's elements were, however, fabricated abroad.

While the payload integration of the C-band transponders (communication side) was developed by the space application Centre, Ahmedabad, the Space Division of the Hindustan Aeronautics Limited (HAL) helped develop and fabricate the honeycomb structure of the satellite.

The Indian Space Research Organisation's satellite centre here developed the management, structure and thermal systems, power electronics, the telemetry tracking and command system.

The Sriharikota Space Centre (SSC) in Andhra Pradesh carried out the high altitude test for the apogee boost motor developed by the Vikram Sarabhai Space Centre (VSSC), Trivandrum. The VSSC was also responsible for the fabrication of the reaction control system, momentum wheel, C-band antenna, solar array development, vibration and the pyro system.

The Guelph Space Centre, British Aerospace and the Toulouse Centre of the European Space Agency (ESA) were also involved in the development of APPLE.

CGO: 5500/7185

COMMUNICATIONS MINISTRY ESTABLISHES NEW DIRECTORATE

Madras THE BUREAU (in English) 16 Jun 81 p 9

(Text) New Delhi, June 15. The Union Ministry of Communications is preparing proposals for submission to the Union Cabinet for the creation of a separate Corporation under its jurisdiction to look after matters relating to the large-scale induction of electronics in telecommunications.

Mr. S. V. Radhakrishnan, formerly Deputy Director-General in the Posts and Telegraphs Directorate, and until recently on deputation to the International Telecommunications Union (ITU) in Geneva, has taken over as Officer on special duty in charge of electronics in the P and T Directorate.

This post has been specially created by the Communications Ministry to ensure that matters, relating to the setting up of electronic exchanges, and the import of electronic telecommunications equipment get undivided attention from a full-time officer.

The Electronic Cell in the P and T Directorate under Mr. Radhakrishnan will be responsible for the selection of electronic systems from among the competing bidders responding to global tenders. It will also look after matters relating to the expansion of the prototype electronic exchange which has been installed in the Rajiv Gandhi, New Delhi.

The P and T department, disturbed by the possibility that the high-power B. C. Baru Committee might recommend the detachment of the telecommunications wing from the P and T, is preparing the ground for formalising it. The P and T which feels that the Department of Electronics is seeking for itself control over the electronic operations of telecommunications is building up its case that it is fully competent to take care of matters relating to the electronic exchanges.

CGD: S300/7134

BRIEFS

TELECOM EQUIPMENT—New Delhi, June 16—The Indian Telephone Industries at Raigarh has designed an improved version of the three-channel open-wire carrier system, which is expected to help in a big way the rural communication network. The present equipment uses a pair of copper wires. With the new version, it will be possible to link rural exchanges over a span of 35 km using two wires. At present, the Posts and Telegraphs Department has a number of rural exchanges connected to semi-urban centres through such two wires. It will now be possible to provide additional transmission facilities with the help of the new three-channel equipment. In addition to multiplex equipment for various applications, video coaxial systems are also being made by the Raigarh unit. This equipment is being presently used for transmitting TV programmes up to a distance of 9 km. This equipment had earlier been supplied to the Sriharikota launching station and Andhra and Bihar carrier stations of the Posts and Telegraphs Department to help in the live transmission of TV programmes between these cities. During 1980-81, four sets of such equipment were supplied to the New Delhi and Jullunder stations. There are plans to supply the equipment to six more stations in the current year. The Raigarh unit is the only one of its kind in India to manufacture the entire range of multiplex equipment required for rural, inter-city and intra-city communication. Besides, it manufactures other telephone instruments. (Text) [Calcutta TWP STATION 26 English 13 Jun 81 p 7]

TELECOM PLAT CONTRIBUTION—Paris, June 23 (UPI)—India has announced a 100,000 dollar contribution this year to an international programme for development of communications. The announcement was made at a UNesco conference on communications, which ended here yesterday. The Indian delegate also offered communication and information disseminating training facilities to all developing countries. Mexico and Iraq were the only other countries, which pledged funds. Many others, including France, pledged their intention to contribute. India told the conference that the training facilities available at the Indian Institute of Mass Communications, Delhi, and the Film and Television Institute at Poona would be open to developing countries. Many participating countries congratulated India on the successful launching of APPLE as part of its role in the international communication development programme. The Indian delegation was led by Mr C. Perthusarathy. The 11 nation council would meet again in Mexico in November. (Text) [New Delhi PATRIOT 26 English 24 Jun 81 p 2]

BRITISH

NEW RADIO RELAY LINE--A new more than two-kilometer long radio-relay line linking the Mongolian capital with Bobd Alash was put into operation. Now the people of the Alash has got the possibility to watch television and listen to radio-broadcasts from Ulaanbaatar. The line was constructed by Mongolian and Soviet specialists. In future the radio-relay line will be extended from Bobd Alash to the north-western border with the Soviet Union. The construction of the line will link Ulaanbaatar and Russia with the up-to-date telecommunication line.
(Text) (060000) Ulaanbaatar RUMTAHB (in English 1711 GMT 3 Jul 81 GW)

CDI: 5500/2248

GOVERNMENT INDECISION HAMPS COBRA FINANCIALLY

Rio de Janeiro O GLOBO in Portuguese 31 May 81 p 38

(Text) Brasilia--The financial future of COBRA (Brazilian Computers and Systems, Inc) is becoming more precarious each day due to government indecision in providing effective measures. According to sources of information, even if the government now allocated funds totaling 4.1 billion cruzairos, this would not be enough to cover the firm's immediate needs, estimated to be 6.23 billion cruzairos.

According to the same sources, the delay in transferring government funds to COBRA has served only to worsen the firm's economic and financial situation. COBRA at present owes 490 million cruzairos to domestic sources of funds, 320 million to foreign sources, 660 million to banks and 430 million in taxes and social charges. At the end of April, COBRA owed 4.33 billion cruzairos to the banking system alone.

Excessive Stock

An investigation of the firm made by the Bank of Brazil revealed that COBRA's stocks totaled 2.3 billion cruzairos in February and that its accounts receivable amounted to 1.4 billion. The investigation also disclosed that COBRA showed a loss of 1 million cruzairos and negative liquid assets of 90 million. The firm's liabilities were estimated at that time to be 6.6 billion cruzairos. Another crucial problem for COBRA's administration is that of covering its indebtedness to banks and the social security fund.

The investigative experts make special mention of COBRA's stocks, estimated at 2.3 billion cruzairos, which could cause the firm serious problems if there were changes in its product lines or the emergence of more sophisticated equipment. If those changes affected a quarter of the stock making it unusable, the amount of the loss would equal the entire amount of COBRA's present capital.

In the opinion of a government data-processing expert, in addition to problems of capitalization and inadequate provision for its liabilities, COBRA needs to make its sales structure more dynamic.

According to government experts and representatives of private enterprise involved in COBRA's studies and problems, the solution to the firm's problems lies in three basic areas: increased capital totally underwritten by the

government; a foreign loan to strengthen its assets; and a 3-year market reserve in the supply of equipment to state shareholders.

These measures would be accompanied by others in the administrative and management area, not even excluding the possibility of dropping certain projects, unless the government allocates funds to make up for losses incurred in the development of these projects.

Government sources assert that the Sharp and Comptel groups come closest in offering proposals compatible with the government's objective of resolving COBRA's problems through private enterprise.

8568

COB: 5500/2236

BRIEFS

EXCESSIVE CLANDESTINE RADIO STATIONS--Brasilia--The number of clandestine radio communications stations operating in the country is greater than the total number of stations licensed by DENTEL (National Telecommunications Department), according to information released yesterday in Brasilia by Col Naiva Fernandes, director general of that department. "DENTEL's failure to control all transmissions made by radio", he said, "is due to a shortage of personnel and funds, and this is jeopardizing not only our security but even our national sovereignty, since, in case of an attack on our country, we will find it difficult to control any clandestine networks which may be operating". The colonel advocated the need to convert DENTEL into a special self-sustaining organization as a way to clear up its problems and said that this possibility is already in its final phase of analysis by Communications Minister Haroldo de Mattos. "As far as Brazil is concerned", the DENTEL director continued, "DENTEL's present situation is unacceptable in that it has only 28 percent of the staff foreseen by DASP (Public Service Administrative Department) to carry out its work on a national level. We have only 1,061 employees", he said, "and we are not able to hire high-level personnel inasmuch as the compensation we offer does not attract highly specialized technicians. The existence of a large number of clandestine radio transmitters used by ham radio operators, a multitude of CB's and even AM and FM stations", the colonel said, "are interfering with our regular broadcasts, and this has resulted in many complaints being sent to DENTEL". According to the colonel, in the past 2 years DENTEL has tried to make better use of the funds at its disposal. But even so, the situation is critical and is preventing DENTEL from achieving its objectives. (Text) (Sao Paulo O ESTADO DE SAO PAULO in Portuguese 2 Jun 61 p 10) 8368

CGO: 5500/2736

FRG HELPS INSTALL NEW RADIO TRANSMITTER

Cotonou ENOU in French 27 May 81 pp 1, 6

Excerpt 7 The minister of information and propaganda, comrade Martin Ishou Asonhiko, accompanied by Dieter Papenfuss and Adjibade Thiamou, respectively ambassador of the Federal Republic of Germany to Benin and ambassador of Benin to the Federal Republic of Germany, visited the radio broadcasting station construction site in the provincial capital of Borgou last Friday. The delegation led by the minister of information and propaganda also included his department staff.

The minister and the ambassadors inspected the work site, consisting of three modules:

1: a garage and two electric generators

2: a center consisting of two 10-kilowatt medium wave transmitters, one 10-kilowatt short wave transmitter, and one 20-kilowatt short wave transmitter. (In the opinion of technicians, this facility has the dual advantage of "coupling" transmitters by two, thus increasing their range, and of having a back-up transmitter for use in case one of the transmitters breaks down).

3: a production center comprising two studios and two control booths, a media library, a reception room, management and secretarial offices, a national languages service office, an editorial office, a cafeteria, etc.

The present state of work progress on the Parakou station is appreciable. In addition to the fully equipped and installed studios, the erection of two antennae may be noted, one of them short wave, capable of covering the entire country, and the other medium wave, covering a radius of 100 km.

In conclusion we note that officials at the Parakou radio station site have set a period of approximately 3 months for completion of the work.

12169
C20: 5500/50 N.

MAURITANIA

BRIEFS

IRAQI-FINANCED TV STATION--The Iraqi Culture and Information Ministry has signed a contract with a French firm for the building of a television station in Nouakchott, the capital of Mauritania. The station's construction, equipment and transmitter will be financed by Iraq within Iraq's support to brotherly countries. The French firm will train the Mauritanian technicians who will operate and maintain the station. (JN071538 Baghdad IMA in English 1515 GMT 7 Jul 81 JN)

CSO: 5500/2248

RECEPTION OF UHF TELEVISION BROADCASTS DESCRIBED TO ESTONIANS

Tallinn SOVETSKAYA ESTONIYA in Russian 5 Jun 81 p 3

(Article by A. Sul'ts, chief engineer, Estonian SSR Ministry of Public Utilities and Social Services "Elektron" Association for the Repair of Radio and Television Equipment: "Reception of UHF Television Broadcasts")

[Text] Low-power television relay transmitters went into service in the republic at the end of 1980, in Kyardla on channel 34 (proposed effective radius of 11 km), in Ringisepp on channel 31 (8 km), in Viljandi on channel 22 (10 km) and Vysa on channel 27 (8 km). These are transmitting central television program No 1.

A powerful TV transmitter which relays central television program No 4 has been in operation on channel 28 in Tallinn since 30 March. All these transmitters operate in the ultrahigh frequency (UHF) band and enabling the reception of programs requires the use of qualitatively new equipment and new designs.

Adoption of the UHF band is associated with "crowdedness" in the ether, with the lack of free channels in the VHF band.

In order to avoid mutual interference it is necessary to place TV transmitters which broadcast programs on identical channels at distances from one another which are considerably greater than their zones of reliable reception. But if this is not possible it is necessary to increase the number of television channels used, to use other operating frequencies. The UHF band has been set aside as a new band for this purpose. The operating frequencies of transmitters in this band are considerably higher than the VHF band and therefore they are not received by a television receiver designed for receiving only the very high frequency (VHF) band.

Two methods exist for receiving signals in the UHF band: conversion of the UHF signal into a VHF band signal receivable by an ordinary television set, or furnishing the television set with an additional program selection unit—a UHF band channel selector (an SKD).

With the first method it is necessary to convert the signal received by the UHF antenna into the signal of one of the "free" channels of the VHF band and to feed it to the television set's input. Then a program transmitted in the UHF band will appear on one of the 12-meter channels of the television set. With this no modifications of any kind are required in the television set. This variant is very

convenient in case a community television antenna (TAKP) is used: By means of a single converter the reception of a new program can be made possible for the entire house or entrance. In the next few years the "Elektron" Association is confronted with the problem of outfitting TAKP's with the necessary converters and of at the same time making it possible for television viewers to see the new television program practically without additional costs of any sort. The start of the re-equipment process has unfortunately been protracted because of the slow mastery by industry of the production of converters. The work will begin in 1982.

Individual converters--PSKD-5 UHF channel selector attachments in combination with a UHF room antenna (TAKD)--are being series produced and have materialized in stores. These converters are installed alongside the television set and are connected to it by means of a connecting cable. Signals enter the input of the PSD-5 from the ordinary VHF antenna and from the UHF antenna and the attachment is powered from the electrical main. The attachment converts the UHF signal received into a signal of the first or second VHF channel.

The second method of receiving UHF broadcasts--the installation in the television set of a second channel selector (SKD-1, SKD-20, SKD-22, etc.)--is possible only when a place for its installation has been provided by the television set's design. The appropriate information is contained on the set's data sheet. On it there is a coupon by means of which the owner will receive gratis from the manufacturing plant the fastening parts required for installing the unit, a selector switch and connecting wires. This coupon is filled in by the owner and is sent to the plant. On the coupon an indication must be made regarding the ability to receive a UHF signal in the area in question, for which it is necessary to turn to the local television repair shop. The market has been entrusted with making UHF selectors available, but shops, too, will get a certain amount of them. Orders for the installation of UHF channel selectors (SKD's) are filled only at television repair shops, since after installation of the unit it is necessary to test the quality of its operation by means of instruments and in terms of the high-quality signal to be received. SKD units have already been installed in some types of television sets; approximately 5 percent of television sets now produced are furnished with these units.

The use of an individual PSD converter or SKD selector necessitates the installation of a separate receiving antenna, since a UHF signal cannot pass through a TAKP antenna system. And since the installation of an individual outside antenna on the roof of a communal residential building is prohibited, then it is necessary to use basically a room antenna. But it must be mentioned that the reception of a television signal with a room antenna does not always guarantee its normal quality. In densely developed areas pronounced double images and distortions can be observed. And on lower floors, if the apartment is in the "shadow" of the television signal, reception can even be absent.

At the service of those desiring to acquire equipment for UHF reception are our dispatchers, order receivers and television service foremen, from whom it is possible to get the necessary information and a technical consultation. A new kind of service has been introduced in Tallinn since May--calling a service foreman for determining the ability to receive a UHF signal and consultation at the owner's

home. A specialist can be called at the dispatching office at 5 Belvoir Boulevard (telephone 631-677).

During the current five-year plan period community television antennas in cities in which the reception of DVB television broadcasts is possible will be furnished with converters and then the need for other equipment will disappear.

6611
CSD: 5500/16

CASE: BALKS OF PRIVATE TELEVISION

BERLINER URSPRUNG, in German 22 Jun 81 p 34

Distributed articles: "Break in the Story"

July There is to be no unregulated commercial television in Germany. And last week the Federal Constitutional Court *(FCC)* ordered pluralistic controls for private programming in the new *Balks*.

The partners in Beauftragter's "Free Broadcasting Corporation in Formation" (FBB) have been trying for 10 years to file suit in the courts for the same thing that Axel Springer and other publishers have long been wanting to push through politically: private broadcasting frequencies.

Last week the FBB in Berlin made sure its plan to the provincial publishing associates that their goal — a Saarland radio broadcasting system as competition for the existing public programs — is not to be attained by this means either.

Domestic television is classified as broadcasting, legal consequences the Saarland refers to a "third television service," coming after the fundamental TV decisions handed down by the Constitutional Court 10 and 20 years ago. And last Tuesday's verdict does indeed contain something new regarding the situation with the nation's television services.

The justices of the high court declared the Saarland's broadcasting law unconstitutional for the most part. It was the only law of its kind in the FRG to permit the land government to issue private broadcasting licenses. The court held that the licensing standards were not sufficiently precise, thereby obliterating the legal basis for the FBB actions.

In its written opinion the FCC extended its view, looking beyond the Saarland to the rest German broadcasting scene. The judges promptly focused on the current variations and conflicts of "modern development" — without naming them: TV satellites and cable television, private programs and pilot projects.

The main conclusion of this development is increased programming in contrast to the present "special situation" (WZG) of a shortage of frequencies. The television satellite can transmit 9 programs, while the upper cables that are now mushrooming contain 30 TV channels. And the future fiberglass cables that will be available

against the odds of the DFG's will be bringing even more broadcasting channels. The chances of new transmitting capacities gave publishers and industrial leaders reason to hope that they would soon be able to offer private programs such as newspaper of their choice.

The DFG had been far denser than this. Influenced among other things by the shortage of frequencies, it had ordered that social groups had to have a voice in control over radio and television programs. The principle here was that of providing the citizenry with comprehensive information.

In the case of the DWG, the question had hitherto "remained open" as to whether this kind of constitutional barrier would be lifted in the case of additional programs. The high court justices have now ruled that the new radio and frequencies may be allocated by the Land legislatures to private promoters, but they may not be left to the free play of forces. Social forces must have "effective influence" in private programming as well.

The DWG has thus extended its TV interests to cover the new radio, for as such as 20 years ago it had declared private television permissible under these conditions — with no restriction from the Landes.

The court took account of the altered situation only in that it allowed a new organization form for the necessary variety of opinion. In addition to internal control as practiced by the public institutions, legislation is permitted for an "economically pluralistic" variety — in other words, for a number of programs which on the whole, however, must present trends and directions "in their entirety."

The great expectations of those with commercial TV interests were thus thwarted. They had hoped that the objectionable pluralistic controls would be abruptly abolished as a result of the increased programming.

The Constitutional Court flatly rejected the opposing commercial case, because a full spectrum of opinion could not be expected "with sufficient certainty" from unfeathered competition among the programs. Moreover, said the court, "especially in the case of a station as important as broadcasting, the chance of a concentration of opinion-making power and the danger of abuse with the aim of prejudicially influencing public opinion must be taken into account."

CDU politicians who, like Lower Saxony chief Ernst Albrecht, have been pinning their hopes on "6, 7, 8, 9, 10 television programs," are consequently going to have to rely upon legal provisions that ensure freedom of opinion "as broadly and completely as possible."

Bernhard Vogel, head of the Bahnpläne Institute, was well advised to transfer control — by law — over a cable pilot project planned for Ludwigshafen to a committee composed of representatives of social groups. For the DFG justices included tests of this kind in the obligation regarding parliamentary regulation.

The DFG has maintained its skepticism toward any and all participation in private television. Although Federal Business Manager Peter Giese did say in the report one break on a "Münchner Liberalen" in the other, he does not consider the foundation's pluralistic conditions to be strong enough.

On the other hand, the Ludwigshafen project should shed some light on whether these conditions might not deter private promoters. The Federation of German Newspaper Publishers has already put up 10-10 million for its participation in the test.

'ANARCHY' SEEN OVERTAKING INDEPENDENT RADIO STATIONS

Paris LE FIGARO in French 10 Jun 61 p 7

(Article by Bernard Brizay)

(Text) Socialist leaders who have decided in favor of radio broadcasting freedom are beginning to gauge the extent and intricacy of the hornet's nest into which they have stumbled. While awaiting the law which is to put an end to the radio monopoly (and on which Parliament will not vote before autumn), a baffling wind is blowing up over frequency modulation. It is a question of who will be in charge of R.F., who will make known its plans, make statements and proposals, particularly those regarding the acceptance or non-acceptance of advertising by local radios. What is more, three independent radio federations are squabbling quite actively. The scenario has often been broadcast of the Italian predilection, in other words, of hundreds, if not thousands of radios struggling to command attention, while creating considerable confusion. But in matters of monopoly in radio broadcasting, France is today more in a class with the Italy of 1930 which was awaiting unification, and Cavour.

Over and above their differences, independent radio broadcasters are of one mind in one respect: to demand the discontinuance of interference which is more prevalent in Paris than in the provinces and more in the daytime than at night. The National Federation of Independent Radio Broadcasters (PNRI), which met last Saturday and Sunday, has, for example, requested first and foremost the discontinuance of interference for "commercial broadcasting." This was then up with that note to the League of Some Rights and our political parties as the P.D.T. (Unified Socialist Party) and the R.D. (Movement of Left Radicals). Radio R. however, an outlying station which broadcasts on the Côte d'Azur from Nice-Roussillon, Italy, is no longer being jounced by T.F.P.

On the other hand, George Cullinan, minister of communications, has written to the guardian of the Great Seal, Maurice Faure, to request the discontinuance of legal steps against independent radio stations. In Mr. Cullinan's opinion, the public would find it difficult to understand how proceedings could be instituted and sanctions passed for "the violation of regulations on monopoly" at the very time when the government is getting ready to introduce an amendment specifically to control the monopoly. A few days ago, the Parisian departmental court obliged the person in charge of a G.T.F. (General Confederation of Labor) independent

radio station in Val-d'Aoste to per TDF a 700-kwatt filer. "the heaviest since 10 May," they said.

This clarity of view exhibited the increase of enterprise aimed at establishing independent radio stations. To mention one example, the Great Atlantique Radio Station, connected with the Socialist Party (and this year's Socialist town hall) and the Orléanais Radio Station, a "local radio station" of the CGT, which has focused its broadcasting over Nord and Pas-de-Calais Department (after the public had dramatically seized it in October 1980). Perpignan is apparently the first capital of independent radio, as four of them (Radio Arènes, Radio 66 and Radio Bleu as well as a CDT radio) have for some days now been broadcasting in the Pyrenees-Orientales. Much awaiting in Aude Department is the birth of a "democratised radio station, the radio station which is heard" in 7 years. In Cambrai, Radio 6, a local small radio station, has been in operation since 9 June. In Villeneuve, the UDF (Municipal National Union) opponent of the Gaullist mayor, Charles Bertrand, is making public his intention to launch an independent radio station.

Regarding Frequencies

On the other hand, in Haute there is a rush to obtain the use of the radio waves available by the various companies and the town council of which Jean Rauch (UDF) [French Democratic Union] is the leader. The Haute senator and mayor has in fact granted a 700,000-kwatt authority for the organisation of a proposed local radio station. "We had to move quickly to get one of the last open slots." Quite frankly said Mr Rauch who in 1979 had already sponsored the installation of a community radio broadcasting and television network, "a unique event" which already enables 2,000 Haute houses to pick up nine television programs and a dozen FM radio stations. Haute-Pyrénées now has Radio Alpha, a very recent arrival which broadcasts on 103 MHz and which opposed to Alain Griseterry, candidate for the parliamentary elections in the fourth circonscription of Haute-Pyrénées Department, a fact which is, it seems, "unfortunate."

Haute-Rhône radio station, an existing radio which broadcasts from Val d'Aoste, is making public the intention to increase the power of its transmitters in order to provide better coverage for the Rhône-Alpes region. But, to and behold!, private television is already joining the game. In Paris, Canal Verte, which claims the backing of ecologists, has been broadcasting over the weekend from the 13th arrondissement.

The Problems

The abundance of enterprises is, however, concealing two problems which are coming up for the independent radio stations: their inability to arrive at a mutual agreement in order to establish a representative federation and their financing through advertising.

The three existing independent radio federations: FRI, ARI (Association for Radio Independents) and the very recent FNRLT (National Federation of Independent Local Radio and Television Stations) are to meet today to formulate a platform

designed to be negotiated with the Ministry of Communication. However, as obvious are their differences of opinion on the coming independent radio statute and their principle financing by advertising that it is difficult to see how they could come to an agreement. For example, the FRC strongly recommends a "nonprofit radio association arrangement" and disallows recourse to advertising, but nevertheless considers the possibility of using "paying radio messages" provided they are not used to promote or sell specific products or services. The FRC is also proposing a "code of ethics" for the transition period.

As for the ADO, it is against advertising radio stations envisioned as associations of producer-market cooperative societies; it agrees to advertising provided it is limited to five minutes per hour and likewise suggests a "good conduct code."

The FRCU, finally, recommends that radio stations be permitted to free themselves from nonprofit associations and press organizations. It agrees in principle to advertising and requests the institution of an advertising administrative department. During the transition period, however, FRCU requests the prohibition of all advertising "to avoid a situation which could be impossible to reverse," and the institution of a committee to oversee private radio financing. Let me immediately make it clear that the proposals of this last-named federation are to be carefully taken into consideration, for the FRCU is thought to be an efficient, although not a secret one, of the PI (Société Part.).

So that as it may, we wish the best of luck to the legislator who attempts to put the present jungle of independent radio stations in order. And as far as the independent radio stations are concerned, we only hope that a better future will not come in the wake of a lawless spring.

AB 70
CAB, 1980-1989

ADVICE TO AREA TEST NEW MOBILE PHONE SYSTEM

Oslo AFTERPOSTEN in Norwegian 10 Jun 81 p 28

(Text) The automatic mobile telephone, which will be put into use in the Oslo area beginning this fall, will progress to the area of telecommunications, if we are to believe the demonstration at a press conference at the Telecommunications Office on Thursday. By 1983 the system will be used throughout the country. It may also be used in the other Nordic countries. It will not be cheap for subscribers, however. Each set will cost between 17,000 and 25,000 kroner. A number of manufacturers have the equipment ready for delivery.

Norway has 30,000 mobile telephones, the most in Europe regardless of population. The annual increase is 20 percent, division chief Knut Stafne stated. The goal is for it to be as similar as possible to the usual telephone service. The system is simple to use, easy to make connections, and has a better sound quality than mobile telephones today. Connections are made automatically by using direct distance dialing both to and from the mobile stations and also between mobile stations. It is possible to call from the mobile telephone to all countries that have direct distance dialing.

The first phase of development includes Vestlandet with a central station in Oslo. Next year Vestlandet will be added with a central station in Bergen. Middle Norway will receive service in 1984 with a central station in Trondheim and North Norway in 1985 with a central station in Bodø.

The automatic mobile telephone will be somewhat less expensive to use than the usual telephone. The charge for 1 minute will decrease from 3.50 to 2.50 kroner.

The Telecommunications Office's computer service has also developed rapidly during the 10 years it has been in operation. At the beginning of the year, 9,600 subscribers were connected to the computer network—an increase of 30 percent over 1979.

A study has shown that the number of computer links to the telecommunications network in Western Europe will rise from 400,000 in 1979 to 1.6 million in 1987. It is predicted that the number in Norway will increase by more than the average and in 1987 Norway will have about 37,000 links.

"The normal telephone network is not good enough for data transmission", division chief Knut Stafne stated. The new Norwegian computer network is an integrated part of the Norwegian network and it is absolutely the most advanced in the field. It will be put into permanent operation beginning this fall. The first central station will be in Oslo, with Bergen added next year, and by 1965 there will be central stations in Trondheim and Sodø as well. The system will be capable of transmitting up to 1,000 characters per second. Charges will be the same throughout the country.

9336
CSD: 5300/2233

TELECOMMUNICATIONS AGENCY PRESENTED LONG-RANGE PLANS

Oslo NORGES HANDELS OG SJØFARTSTIDENDE in Norwegian 4 Jun 81 p 35

(Text) The Telecommunications Office's long-range plans include activity in the area of computers for the eighties. This includes primarily an extension of the current Datel service, Teletex and Telefax. The Telecommunications Office's most important innovation for data transmission in the telecommunications network during the eighties will be the new Nordic public data network. Operating experience so far is good. This fall the system will be put into full commercial operation. These introductory remarks made by research director Nils Bull during the newly completed computer seminar in Oslo shed light on the Telecommunications Office's computer services for the eighties.

Facsimile transmission over the telephone network has occurred for many years, but it has not made any great breakthrough. On 1 January the Telecommunications Office initiated its public Telefax service. Today it is manufacturing equipment for this purpose in open competition with private manufacturers. Today transmission occurs between instruments that can transmit an 8-1/2 x 11 inch page in 3 minutes. More advanced equipment has been developed and when the Telecommunications Office puts it into operation the transmission time will be reduced to 1 minutes. Teletex is an international service that makes it possible for subscribers to exchange correspondence through an automatic storage-to-storage method over the telecommunications network. Teletex was introduced to meet the need for a more efficient exchange of business correspondence. Technically the purpose of the service is:

To enable users to produce documents locally and place them in local storage. This corresponds to the function served today by text processing equipment. Further, it makes it possible to transmit documents from storage in one Teletex terminal to storage in another. This transmission will be possible regardless of what type of terminal equipment the sender and receiver have. In addition, it is possible to send to every Teletex subscriber in the world and to every telex subscriber. The system will also insure that documents transmitted in this manner to another subscriber can be printed by the receiver and that the results are identical with the transmitted document in form and content.

Fundamental concepts in Teletex technology are transmission protocol and total service. For terminals from various manufacturers to understand each other,

it is necessary for them to speak the same language. All along, the standardisation work has been done with this in mind. To be called a Teletex terminal and be used in the service, a terminal must be prepared to send or receive messages at any time and it must be available most of the time. The Telecommunications Office's Teletex operations have not yet been completely finalized, since this requires a parliamentary decision. The Telecommunications Office's own view is that to offer business satisfactory facilities, the service should be introduced in Norway as soon as this is possible in practice and this is assumed to be possible in 1983.

He said further that in the middle of this decade Teletex and Telefax would be joined together. Even though at first it will be impossible to use a Teletex terminal for anything but text processing and Teletex communication, it will not be many years before we will have integrated office terminals that will operate as Teletex, Telefax, Teledata and computer terminals. It is hoped that there soon will be integrated computer and telephone systems in the same local network within a company and by the end of this decade the Telecommunications Office's central station wants to make such integrated services possible. It is assumed that toward the nineties great strides will be made toward integrating text, data, pictures and speech.

9336

CSD: 5500/2233

NORMAY

BRIEFS

TELEFAX TO BE MARKETED--During the first quarter of 1981 as many telefax machines were sold on the Norwegian market as during all of 1980. According to a study conducted by the Telecommunications Office, this agency had 62.8 percent of the market during the first quarter. Director general Kjell Holler of the Telecommunications Office stated this at a meeting of the Nordic Tele Union in Oslo recently. On 1 January the Telecommunications Office began marketing two types of Telefax machines in competition with private manufacturers after parliament decided that the agency should compete with industry. Telefax, also called remote copying, makes it possible to transmit practically any document over the telecommunications network: sketches, notes, diagrams, photographs, price quotations, etc. Sender and receiver must have a telephone and a telefax machine. At the meeting at the Nordic Tele Union director general Holler also stated that some private manufacturers had reduced their prices by up to 30 percent after the Telecommunications Office entered the market. "Thus, it seems that the Telecommunications Office, with its entry into the market, had become the price leader", Holler stressed. [Text] [Oslo NORGES HANDELS OG SJOFARTSTIDENDE in Norwegian 5 Jun 81 p 40] 9336

CGO: 5500/2233

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